

5 RECENT AND ONGOING CONSERVATION EFFORTS

During the last 25 years, numerous efforts have taken place within the Lake Ozette watershed to protect, conserve, and restore the sockeye salmon population. A significant proportion of adult sockeye returning during the last 10 years result from past conservation efforts. For example, from 2000 to 2004, sockeye spawning escapement in Umbrella Creek made up more than 50 percent of the total annual escapement for the ESU (Haggerty et al. 2007), and Umbrella Creek spawners are a product of the Makah Tribe's tributary sockeye reintroduction program.

While many conservation efforts have directly focused on recovery and conservation of Lake Ozette sockeye salmon, other efforts not designed and/or implemented specifically with this intention have also benefited the sockeye. The following list of conservation efforts was developed with input from the Lake Ozette Sockeye Steering Committee. Although the list is not all-inclusive, it indicates the scale of local efforts and resources for the task. The list contains programmatic actions (e.g., changes in forest practice regulations) and site-specific actions (e.g., Big River LWD enhancement projects), as well as research and monitoring projects implemented with the intent to better understand limiting factors and/or to develop management actions necessary to restore Lake Ozette sockeye salmon.

- Forest Practice Act enacted (1946).
- Current Forest Practices Act enacted (1974) and partially amended (1975).
- Development and implementation of increasingly protective State forest practices regulations prior to and since the 1970s.
- Rule changes in response to environmental review, including threatened and endangered species, forest roads, reforestation, and debris disposal (1980-1981).
- Creation of the Lake Ozette Sockeye Steering Committee (1982).
- Makah Tribal fisheries regulations prohibiting commercial, subsistence, and ceremonial harvest of Lake Ozette sockeye (1982-present).
- Pre-HGMP sockeye hatchery supplementation efforts (1982-1999).
- SEPA Rules developed requiring environmental review (1984).
- Development and implementation of the Timber/Fish/Wildlife agreement on private forest lands (1987).
- Class IV General Rules (1991) identifying certain areas proposed for timber harvest that, because of their particular characteristics, need additional evaluation and site review.
- Rule changes addressing wetlands, cumulative effects analysis, critical wildlife habitat, and stream temperatures (1992).
- Creation and implementation of Washington State Department of Natural Resources Habitat Conservation Plan for State Lands (provides minimum guidelines for forest practice activities on State Lands; 1994).
- Olympic Coast National Marine Sanctuary established in 1994.
- Forest and Fish legislation passed (1999).

PROPOSED RECOVERY PLAN FOR LAKE OZETTE SOCKEYE SALMON

- Creation of the North Olympic Peninsula Lead Entity Group (NOPE) and WRIA 20 Citizen Facilitation Group (CFG), whose purpose is to identify and prioritize restoration actions, seek funding for projects, and oversee project implementation (1999).
- Forest Practices emergency rules adopted addressing water typing, unstable slopes, roads, and wetlands (2000).
- Development and implementation of the Lake Ozette Sockeye Salmon Hatchery and Genetic Management Plan (2000).
- Revised permanent rules per Forest and Fish Report (2001).
- Development and implementation of the Forest and Fish agreement and subsequent Habitat Conservation Plan (regulates forest practices on private land; 1999) (WDNR 1999, WDNR 2005). (The Forests and Fish Law, a product of the Forests and Fish Agreement, was enacted in 1999, with rules to implement it adopted in 2001 by the Forest Practices Board.)
- State fishing regulations prohibiting salmon fishing in all streams within the Lake Ozette watershed.
- National Park Service fishing regulations restricting the harvest of Lake Ozette sockeye salmon.
- Clallam County conservation programs, ordinances, and plans:
 - Clallam County Shoreline Master Program (1989)
 - Clallam County Interim Critical Areas Ordinance (1992)
 - Clallam County Wide Planning Policies (1993)
 - Clallam County Comprehensive Plan and Sub-Area Plan (1995)
 - Clallam County Shoreline Code Amendment (1997)
 - Clallam County Critical Areas Code (1999)
 - Critical Areas GIS Mapping and Map Updates (1992, 1995, 1999, 2000)
- Several in-stream and floodplain enhancement projects:
 - LWD placement Solberg Creek (Green Crow/Makah Tribe, 1999)
 - LWD placement Umbrella Creek (Crown Pacific/Makah Tribe, 2000)
 - LWD placement and riparian planting Big River, Cross property (Makah Tribe, 2005)
 - LWD placement Big River, Boe property (Makah Tribe, 2006)
 - Big River knotweed eradication and riparian planting (local citizens and private property owners/Makah Tribe/Clallam County/Olympic National Park, 2005 and 2006)
- Numerous reports and research and monitoring projects focused on better understanding and/or conserving and restoring Lake Ozette sockeye salmon can be broadly grouped within the following categories:
 - Juvenile and Adult Abundance Projects (see-Blum 1998; Crewson 2003; Dlugokenski et al. 1981; Drange and LaRiviere 1991; Good et al. 2005; Gustafson et al. 1997; Haggerty 2004; Haggerty 2005a, 2005b, 2005c, and 2005d; Haggerty et al. 2007; Hinton et al. 2002; Jacobs et al. 1996; Kemmerich 1926, 1939, 1945; LaRiviere 1990, 1991; MFM 1981a, 1981b, 1981c, 1982a, 1982b, 1983a, 1983b,

PROPOSED RECOVERY PLAN FOR LAKE OZETTE SOCKEYE SALMON

1983c, 1984a, 1984b, 1986, 1987, 1991, 1992, and 2000; McHenry et al. 1996; Nehlsen et al. 1991; NMFS 1998; Peterschmidt 2005; Peterschmidt and Hinton 2005; Ward et al. 1976; WDF 1994; WDF 1955)

- Sockeye Stock Status Reviews (see-Nehlsen et al. 1991; WDF 1994; McHenry et al. 1996; Gustafson et al. 1997; NMFS 1998; MFM 2000; WDFW 2002; Good et al. 2005; Haggerty et al. 2007).
- Population Identification and Viability Analyses (Currens et al. 2006; Rawson et al. 2008)
- Habitat Conditions and Habitat Limiting Factors Reports (Adamire 2000; Beauchamp et al. 1995; Beauchamp and LaRiviere 1993; Blum 1988; Bortleson and Dion 1979; Crewson 2002; Dlugokenski et al. 1981; Gearin et al. 1999, 2000, 2002; Golder 2005; Haggerty et al. 2007; Haggerty and Ritchie 2004; Herrera 2005, 2006; Hughes et al. 2002; Jacobs et al. 1996; Klinge 1991; Kramer 1953; Lieb and Perry 2004; MFM 2000; Martin Environmental 1999; McHenry et al. 1994; Meier 1998; Meyer and Brenkman 2001; PWA 2002; Ritchie 2005, 2006, Shellberg 2003; Smith 2000; USFWS 1965; NMFS 2006)
- Hatchery and Genetic Management Plans and Reports (MFM 2000 and subsequent annual reports on HGMP activities; NMFS 2003, 2004; Crewson et al. 2001; Hawkins 2004)